

What is claimed is:

1. A microorganism belonging to the genus *Escherichia* and having purine nucleoside-producing ability.
2. The microorganism according to claim 1, which has
5 acquired the purine nucleoside-producing ability because of an increase of an activity of an enzyme involved in purine nucleoside biosynthesis in cells of the microorganism.
3. The microorganism according to claim 1, which has
10 an increase of an expression amount of a gene for an enzyme involved in purine nucleoside biosynthesis.
4. The microorganism according to claim 1, which has
15 acquired the purine nucleoside-producing ability because of deregulation of control of an enzyme involved in purine nucleoside biosynthesis.
5. The microorganism according to claim 4, the control of the enzyme involved in the purine nucleoside biosynthesis is desensitized by desensitization of feedback inhibition.
6. The microorganism according to any one of claims 3-
20 5, wherein the enzyme involved in the purine nucleoside biosynthesis is phosphoribosyl pyrophosphate amidotransferase.
7. The microorganism according to claims 3 or 4, wherein the enzyme involved in the purine nucleoside biosynthesis
25 is phosphoribosyl pyrophosphate synthetase.
8. The microorganism according to claim 4, wherein the control of the enzyme involved in the purine nucleoside biosynthesis is derepressed by inactivation of a purine

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repressor.

9. The microorganism according to claim 1, which has acquired the purine nucleoside-producing ability because of blockage of a reaction branching from purine nucleoside biosynthesis and leading to another metabolite.

10. The microorganism according to claim 9, wherein the reaction branching from the purine nucleoside biosynthesis and leading to another metabolite is a reaction catalyzed by an enzyme selected from the group consisting of succinyl-adenosine monophosphate synthase, purine nucleoside phosphorylase, adenosine deaminase, inosine-guanosine kinase, guanosine monophosphate reductase, 6-phosphogluconate dehydrase, phosphoglucose isomerase, adenine deaminase, and xanthosine phosphorylase.

11. The microorganism according to claim 1, which is enhanced in the purine nucleoside-producing ability by weakening of incorporation of a purine nucleoside into cells of the microorganism.

12. The microorganism according to claim 11, wherein the incorporation of the purine nucleoside into cells of the microorganism is weakened by blockage of a reaction involved in the incorporation of the purine nucleoside into cells of the microorganism, and the reaction involved in the incorporation of the purine nucleoside into cells of the microorganism is a reaction catalyzed by nucleoside permease.

13. A method for producing a purine nucleoside by fermentation comprising culturing the microorganism as

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Sub B₁

defined in any one of claims 1-12 in a culture medium to produce and accumulate the purine nucleoside in the medium, and collecting the purine nucleoside.

add B₂

add C₅

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